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EXAMINER

VIEAUX, GARY

ART UNIT	PAPER NUMBER
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2612

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DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,652

Applicant(s)

GARTSTEIN ET AL.

Examiner

Gary C. Vieaux

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. This application, filed under former 37 CFR 1.60, lacks formal drawings. The informal drawings filed in this application are acceptable for examination purposes. When the application is allowed, applicant will be required to submit new formal drawings. In unusual circumstances, the formal drawings from the abandoned parent application may be transferred by the grant of a petition under 37 CFR 1.182.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the abstract should not be a recitation of the claims. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 21 improperly references dependency on claim 23. Based on the language of the subsequent claims, claim 21 will be examined for patentability with a presumed dependency on claim 20, not claim 23 as recited.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-10, 15, 17-20, 24, and 26-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kent et al. (US #5,836,872) in view of the disclosed non patent literature document by Chatenay et al. (Applicant Submitted IDS, cite number 8.)

7. Regarding claim 1, Kenet teaches a monitoring method of magnifying (col. 10 lines 59-62) a predetermined skin area (col. 10 lines 16-19) having reference indicia (col. 11 lines 59-62) to provide a first magnified image (col. 10 lines 15-19); digitally capturing (col. 4 lines 50-61) the first magnified image to form a reference image

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(Abstract, line 1-6); after a predetermined time period (Abstract, line 3-5; col. 14, lines 9-11), magnifying the predetermined skin area to provide a second magnified image (Abstract, line 3-7; col. 14 lines 9-14); and comparing the second magnified image with the reference image (Abstract, line 5-7.) However, Kenet does not directly teach superimposing the second image on the reference image to align the reference indicia in the second magnified image with the reference indicia in the reference image.

Nevertheless, Chatenay teaches a similar monitoring method (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3) which superimposes a second image (p. 1, ¶ 4, line 5) on the reference image to align the reference indicia (p. 1, ¶ 1, line 2) in the second magnified image with the reference indicia in the reference image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to superimpose the images as taught by the monitoring method of Chatenay, with the monitoring method as taught by Kenet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to superimpose one magnified image upon another as a way to visually observe changes in the images.

8. Regarding claim 2, Kenet and Chatenay teach all the limitations of claim 2 (see the 103 rejection to claim 1 supra), including the teaching by Kenet of the method further comprising digitally capturing the superimposed images (col. 2 lines 12-15; col. 26 lines 5-21 and lines 44-54) to form a treatment image (col. 26 lines 49-54.) It is noted that Chatenay also teaches the method further comprising digitally capturing the superimposed images to form a treatment image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.)

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9. Regarding claim 3, Kenet and Chatenay teach all the limitations of claim 3 (see the 103 rejection to claim 1 supra), including a teaching by Kenet wherein the magnified images are provided by contacting the predetermined skin area with a fiber optic head video microscope (Fig. 2C; col. 4 lines 50-65; col. 5 lines 47-62; col. 6 lines 21-22.)

10. Regarding claim 4, Kenet and Chatenay teach all the limitations of claim 4 (see the 103 rejection to claim 3 supra), including the teaching by Kenet of a method wherein the fiber optic remote head video microscope includes a transparent member adapted to contact the predetermined skin area (col. 8 lines 6-12.) It is noted that flattening of hair would inherently occur when pressing the transparent member to contact the predetermined skin area.

11. Regarding claim 5, Kenet and Chatenay teach all the limitations of claim 5 (see the 103 rejection to claim 4 supra), including the teaching by Kenet of a method wherein an optical coupling liquid is applied to the predetermined skin area prior to contact of the predetermined skin area with the fiber optic remote head video microscope (col. 7 lines 42-46; col. 8 line 13.)

12. Regarding claim 6, Kenet and Chatenay teach all the limitations of claim 6 (see the 103 rejection to claim 5 supra), including the teaching by Kenet wherein the optical coupling liquid comprises water (col. 8 lines 34-38.)

13. Regarding claim 7, Kenet and Chatenay teach all the limitations of claim 7 (see the 103 rejection to claim 5 supra), including the teaching by Kenet wherein the optical coupling liquid comprises mineral oil (col. 8 lines 34-38.)

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14. Regarding claim 8, Kenet and Chatenay teach all the limitations of claim 8 (see the 103 rejection to claim 1 supra), including the teaching by Chatenay wherein the predetermined skin area comprises a scalp area (p. 1, ¶ 1, line 2.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor the scalp area as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to monitor the scalp area when evaluating treatments related to progressive hair loss (p. 1, ¶ 2, lines 1-2.)

15. Regarding claim 9, Kenet and Chatenay teach all the limitations of claim 9 (see the 103 rejection to claim 1 supra), including the teaching by Chatenay wherein the predetermined skin area comprises a transitional scalp area (p. 1, ¶ 1, lines 2-3; p.1, ¶ 2, lines 1-2.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor a transitional scalp area as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to monitor a transitional scalp area when evaluating treatments related to progressive hair loss (p. 1, ¶ 2, lines 1-2.)

16. Regarding claim 10, Kenet and Chatenay teach all the limitations of claim 10 (see the 103 rejection to claim 1 supra), including the teaching by Chatenay wherein hair in the predetermined skin area is clipped prior to magnification to provide the first magnified image (p.1, ¶ 4, line 4.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to clip the hair in the predetermined skin area prior to magnification to provide the first magnified image as taught by Chatenay, when

employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to clip the hair in order to provide an initial state where all the hair is a similar length (p.1, ¶ 4, line 4), as well as where all the hair to be monitored fits within the magnified image area.

17. Regarding claim 15, Kenet and Chatenay teach all the limitations of claim 15 (see the 103 rejection to claim 2 supra), including the teaching by Chatenay wherein the reference image and the treatment image are compared to evaluate the respective number of individual hairs in the images (p. 2, ¶ 1, lines 3-4.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to compare the images as taught by Chatenay, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this comparison to obtain data relating to changes in hair population (p. 2, ¶ 1, lines 3-4.)

18. Regarding claim 17, Kenet and Chatenay teach all the limitations of claim 17 (see the 103 rejection to claim 1 supra), including a teaching by Kenet wherein the reference image is formed by digitally capturing the first magnified image using only a red color component (col. 11 lines 26-35; col. 12 lines 55-57; col. 13 lines 14-20.) Since the camera of Kenet acquires separate red, green, and blue images (col. 12 lines 55-57), it would have been obvious to one of ordinary skill in the art at the time the invention was made that one can digitally capture the first magnified image choosing to use only the acquired red color component as taught by Kenet, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the

time the invention was made would have been motivated to capture the first digital image using only one color component, red, so that image segmentation on the first image could also be conducted; removing artifacts, interfering structures, or regions of background surface not necessary in the subsequent analysis (col. 16 lines 10-19.)

19. Regarding claim 18, Kenet and Chatenay teach all the limitations of claim 18 (see the 103 rejection to claim 17 supra), including a teaching by Kenet wherein the second magnified image is digitally capturing using green and blue color components (col. 11 lines 26-35; col. 12 lines 55-57.) It is inherent in the camera being used, which acquires images as three separate red, green, and blue images, that the image is digitally captured using the green and blue color components.

20. Regarding claim 19, Kenet and Chatenay teach all the limitations of claim 19 (see the 103 rejection to claim 2 supra), including the teaching by Chatenay wherein after a further predetermined time period, the predetermined skin area is magnified to provide a third image (p. 1, ¶ 4, line 6), and further wherein the third image is superimposed on the reference image or the treatment image to align the reference indicia in the third image with the reference indicia in the reference image or the treatment image, respectively (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a third image as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a third image to observe additional changes that may have occurred since the reference or treatment image.

21. Regarding claim 20, Kenet and Chatenay teach all the limitations of claim 20 (see the 103 rejection to claim 18 supra), including the teaching by Kenet of the method further comprising digitally capturing the superimposed images (col. 2 lines 12-15; col. 26 lines 18-21 and lines 44-54) to form a treatment image (col. 26 lines 49-54) wherein the magnified images are provided by contacting the predetermined skin area with a fiber optic head video microscope (Fig. 2C; col. 4 lines 50-65; col. 5 lines 47-62; col. 6 lines 21-22.) It is noted that Chatenay also teaches the method further comprising digitally capturing the superimposed images to form a treatment image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.)

22. Regarding claim 24, Kenet and Chatenay teach all the limitations of claim 24 (see the 103 rejection to claim 20 supra), including the teaching by Chatenay wherein the reference image and the treatment image are compared to evaluate the respective number of individual hairs in the images (p. 2, ¶ 1, lines 3-4.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to compare the images as taught by Chatenay, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this comparison to obtain data relating to changes in hair population (p. 2, ¶ 1, lines 3-4.)

23. Regarding claim 26, Kenet and Chatenay teach all the limitations of claim 26 (see the 103 rejection to claim 20 supra), including the teaching by Chatenay wherein the predetermined skin area comprises a transitional scalp area (p. 1, ¶ 1, lines 2-3; p.1, ¶ 2, lines 1-2.) It would have been obvious to one of ordinary skill in the art at the time

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the invention was made to monitor a transitional scalp area as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to monitor a transitional scalp area when evaluating treatments related to progressive hair loss (p. 1, ¶ 2, lines 1-2.)

24. Regarding claim 27, Kenet teaches a monitoring apparatus comprising a fiber optic remote head video microscope (Fig. 2C; col. 4 lines 50-65; col. 5 lines 47-62; col. 6 lines 21-22); means for digitally capturing (col. 4 lines 50-61) a first magnified image provided by the microscope to form a reference image (Abstract, line 1-6.) Kenet does not provide means for superimposing a second magnified image provided by the microscope on the reference image and aligning reference indicia in the second magnified image with reference indicia in the reference image. However, Kenet does provide means for comparing a second magnified image provided by the microscope with the reference image (Abstract, line 5-7; col. 26 lines 18-34.) Nevertheless, Chatenay teaches a similar monitoring method (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3) employing an apparatus which superimposes a second image (p. 1, ¶ 4, line 5) on the reference image to align the reference indicia (p. 1, ¶ 1, line 2) in the second magnified image with the reference indicia in the reference image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the superimposing apparatus as taught by Chatenay, with the fiber optic remote head video microscope monitoring apparatus as taught by Kenet. It would have been obvious to one of ordinary skill in the art at the time the invention was made

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to employ an apparatus that superimposes one magnified image upon another as a way to visually observe changes in the images as provided by a fiber optic remote head video microscope.

25. Regarding claim 28, Kenet and Chatenay teach all the limitations of claim 28 (see the 103 rejection to claim 27 supra), including the teaching by Kenet of an apparatus further comprising means for digitally capturing the superimposed images (col. 2 lines 12-15; col. 26 lines 5-21 and lines 44-54) to form a treatment image (col. 26 lines 49-54; also see col. 3 line 50 – col. 8 line 38 for further hardware descriptions.) It is noted that Chatenay also teaches an apparatus further comprising means for digitally capturing the superimposed images to form a treatment image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.)

26. Regarding claim 29, Kenet and Chatenay teach all the limitations of claim 29 (see the 103 rejection to claim 27 supra), including the teaching by Kenet of an apparatus wherein the fiber optic remote head video microscope includes a transparent member adapted to contact the predetermined skin area (col. 8 lines 6-12.) It is noted that flattening of hair would inherently occur when pressing the transparent member to contact the predetermined skin area.

27. Regarding claim 30, Kenet and Chatenay teach all the limitations of claim 30 (see the 103 rejection to claim 27 supra), including a teaching by Kenet of an apparatus further comprising a computer screen for viewing the magnified images (Fig. 1 indicator 144; col. 4 lines 43-47; col. 26 lines 18-21 and 45-47.)

28. Regarding claim 31, Kenet and Chatenay teach all the limitations of claim 31 (see the 103 rejection to claim 30 supra), including a teaching by Kenet wherein the computer screen is adapted for viewing the digitally captured image (Fig. 1 indicator 144; col. 4 lines 43-47; col. 26 lines 18-21 and 45-47.)

29. Regarding claim 32, Kenet and Chatenay teach all the limitations of claim 32 (see the 103 rejection to claim 31 supra), including a teaching wherein the computer screen is adapted for viewing the superimposed images (Fig. 1 indicator 144; col. 4 lines 43-47; col. 26 lines 18-21 and 45-47.) It is noted by the examiner that a monitor that is structurally capable of viewing images via digital input, would also be capable of viewing inputted images that were superimposed.

30. Regarding claim 33, Kenet and Chatenay teach all the limitations of claim 33 (see the 103 rejection to claim 28 supra), including a teaching wherein the means for digitally capturing a first magnified image forms a reference image using only a red color component (col. 11 lines 26-35; col. 12 lines 55-57; col. 13 lines 14-20.) Since the camera of Kenet acquires separate red, green, and blue images (col. 12 lines 55-57), it would have been obvious to one of ordinary skill in the art at the time the invention was made that one can digitally capture the first magnified image choosing to use only the acquired red color component to form a reference image as taught by Kenet, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to capture the first digital image using only one color component, red, so that image segmentation on the first image could also be conducted; removing artifacts, interfering structures, or

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regions of background surface not necessary in the subsequent analysis (col. 16 lines 10-19.)

31. Regarding claim 34, Kenet and Chatenay teach all the limitations of claim 34 (see the 103 rejection to claim 34 supra), including a teaching wherein the means for digitally capturing the superimposed images uses a second magnified image using only green and blue components (col. 11 lines 26-35; col. 12 lines 55-57; col. 13 lines 14-20.) Since the camera of Kenet acquires separate red, green, and blue images (col. 12 lines 55-57), it would have been obvious to one of ordinary skill in the art at the time the invention was made that one can digitally capture the second magnified image choosing to use only the acquired green and blue color components as taught by Kenet, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to capture the second digital image using only the green and blue color components so that image segmentation on the second image could also be conducted (col. 16 lines 10-19.) An additional motivation to capture the second image using only the green and blue color components would be to create a system which differentiates the order of the images based on color components.

32. Claims 11-14, 16, 21-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenet and Chatenay in view of the disclosed non patent literature document by Rushton et al. (Applicant Submitted IDS, cite number 10.)

33. Regarding claim 11, Kenet and Chatenay teach all the limitations of claim 11 (see the 103 rejection to claim 1 supra), except for a teaching wherein hair in the predetermined skin area is magnified greater than ten fold to provide the first and second magnified images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the use of magnification images of x20 to provide the first and second magnified images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a magnification greater than ten fold to provide the first and second magnified images as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a magnification greater than ten fold to provide the first and second magnified images when determining hair diameter, which is otherwise problematic at lower magnifications (Rushton, p. 3, col. 1, ¶ 2, lines 12-16.)

34. Regarding claim 12, Kenet and Chatenay teach all the limitations of claim 12 (see the 103 rejection to claim 1 supra), except for a teaching wherein the predetermined skin area is magnified greater than twenty fold to provide the first and second magnified images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the use of magnification images of x40 to provide the first and second magnified images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a magnification greater

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than twenty fold to provide the first and second magnified images as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a magnification greater than twenty fold to provide the first and second magnified images to effectively determine hair diameter, which is otherwise problematic at lower magnifications (Rushton, p. 3, col. 1, ¶ 2, lines 12-16.)

35. Regarding claim 13, Kenet and Chatenay teach all the limitations of claim 13 (see the 103 rejection to claim 2 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths of individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the evaluation of linear hair growth (p. 2, col. 1, ¶ 4, lines 1-6; p. 1, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair length in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

36. Regarding claim 14, Kenet and Chatenay teach all the limitations of claim 14 (see the 103 rejection to claim 2 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective hair shaft

diameters of individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29), as well as using diameter as a quantitative parameter (col. 20 lines 27-33.) Rushton teaches the evaluation of hair diameter of individual hairs in the images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective hair shaft diameters of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair shaft diameters in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

37. Regarding claim 16, Kenet and Chatenay teach all the limitations of claim 16 (see the 103 rejection to claim 2 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths, hair shaft diameters, and numbers of individual hairs in the images. However, Kenet does teach the method of claim 2 being applicable to the monitoring of hair (col. 3 lines 21-29) and Chatenay teaches the evaluation of the number of individual hairs in the images (see the 103 rejection to claim 15 supra.) Rushton teaches the evaluation of the respective lengths, hair shaft diameters, and numbers of individual hairs in the images (p. 1, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths, hair shaft diameters, and numbers of individual hairs as taught by Rushton, with the

monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair variables in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

38. Regarding claim 21, Kenet and Chatenay teach all the limitations of claim 21 (see the 103 rejection to claim 20 supra), except for a teaching wherein the predetermined skin area is magnified greater than twenty fold to provide the first and second magnified images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the use of magnification images of x40 to provide the first and second magnified images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a magnification greater than twenty fold to provide the first and second magnified images as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a magnification greater than twenty fold to provide the first and second magnified images to effectively determine hair diameter, which is otherwise problematic at lower magnifications (Rushton, p. 3, col. 1, ¶ 2, lines 12-16.)

39. Regarding claim 22, Kenet and Chatenay teach all the limitations of claim 22 (see the 103 rejection to claim 20 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths of individual hairs in the images. However, Kenet does teach the method of claim 2 as

being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the evaluation of linear hair growth (p. 2, col. 1, ¶ 4, lines 1-6; p. 1, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair length in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

40. Regarding claim 23, Kenet and Chatenay teach all the limitations of claim 23 (see the 103 rejection to claim 20 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective hair shaft diameters of individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29), as well as using diameter as a quantitative parameter (col. 20 lines 27-33.) Rushton teaches the evaluation of hair diameter of individual hairs in the images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective hair shaft diameters of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to

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conduct quantitative measurements of hair shaft diameters in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

41. Regarding claim 25, Kenet and Chatenay teach all the limitations of claim 25 (see the 103 rejection to claim 20 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths, hair shaft diameters, and numbers of individual hairs in the images. However, Kenet does teach the method of claim 2 being applicable to the monitoring of hair (col. 3 lines 21-29) and Chatenay teaches the evaluation of the number of individual hairs in the images (see the 103 rejection to claim 15 supra.) Rushton teaches the evaluation of the respective lengths, hair shaft diameters, and numbers of individual hairs in the images (p. 1, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths, hair shaft diameters, and numbers of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair variables in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Crotty (US #5,766,575) teaches use of a fiber optic microscope to capture images.

Dhaliwal (US #5,591,425) teaches use of a Scopeman at a magnification of 25x to measure the length of hair.

Newell et al. (3,673,317) teaches a monitoring method that superimposes different colored images, using the colors to determine the differences between the images.

Merickel et al. (US #5,003,979) teaches a monitoring method where images are superimposed in two of the three color frame buffers in a image display system.

Garner et al. (US #6,337,472) teaches superimposing images using color to improve the user's ability to visualize the difference.

Ichinose et al. (US #5,702,691) teaches the clipping of hair in a predetermined skin area prior to photographing in order to observe change.

Tseng (US #6,246,792) teaches superimposing images in different colors on a monitor to determine differences.

Stryczynski et al. (US #6,020,006) teaches video-recording hair under a dissecting scope under a power of 20x.

Desjonqueres (US #6,001,378) teaches a similar hair monitoring method.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 703-305-9573. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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